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42. The catalyst component of claim 41 in which the catalytic metals comprise gold, palladium, and mixtures thereof.

43. A method of using the catalyst component of claim 41 in which ethylene, oxygen, and the catalyst component are contacted in a fluidized bed under acetoxlation conditions to produce vinyl acetate.

REMARKS

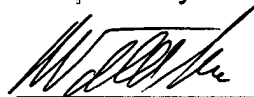
A typographical error in stating the filing date of the provisional application has been corrected. The correct date had been indicated in the Declaration.

An issued patent number has been substituted for a corresponding application number.

Claims 1-20 have been cancelled without prejudice. Claims 21-40 have been added to more specifically claim Applicants' invention. The bases for these claims are the original claims together with disclosure of the invention stated in the specification, including at page 5, lines 10-19; page 7; lines 27-33, page 9; lines 18-20 and 23-27; page 10, lines 13-19; page 12, lines 24-28; and page 13, lines 6-24.

Applicants submit that all claims now presented are in condition for allowance.

Respectfully submitted,



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Marked-Up Version of Amended Specification and Claims

SPECIFICATION

The paragraph at page 1, lines 4-5 is amended as follows:

—This application claims the benefit of U.S. Provisional Application Number 60/272,146, filed February 28, 200[0]1, which is incorporated by reference herein.—

The paragraph at page 12, lines 6-23 is amended as follows:

—Further embodiments of the invention relate to attrition resistant catalyst material which comprises attrition resistant microspheroidal particles as catalyst support. In accordance with these embodiments, a catalytically active component is applied to attrition resistant microspheroidal particles. The catalytically active component may be applied to attrition resistant microspheroidal particles by any known method which results in the integration of the catalytically active component with the attrition resistant microspheroidal particles, thereby forming a catalyst material. Preferably, the catalytically active component is applied to the attrition resistant microspheroidal particles by any known method, such as by impregnation. A preferred method of impregnation is described in U.S. Patent [Application No. 09/455,753]6,358,882 which is incorporated by reference for U.S. patent practice. In a typical procedure, an incipient wetness technique is used to impregnate attrition resistant microspheroidal particles with a solution (or solutions) of catalytically active material or precursors thereof, e.g. salts of the catalytically active material. Preferably, the impregnated microspheroidal particles are dried slowly at an elevated temperature, such as 40 to 80° C, typically for more than about eight hours. If catalytically active precursors such as salts of catalytically active metals are used, such metal salts may be reduced after impregnation to form a catalyst material. —

CLAIMS

New claims were added as follows:

21(new). In a method to make attrition resistant microspheroidal particles formed by spray drying an aqueous slurry comprising a metal oxide sol and an inorganic particulate solid, separating the resulting microspheroidal particles, and drying the microspheroidal particles, the improvement comprising adding a minor portion of added microspheroidal particle fines to the aqueous slurry.

22(new). The method of claim 21 in which the metal oxide sol and inorganic particulate solid are formed from aluminum oxides, zirconium oxides, titanium oxides, iron oxides, cerium oxides, BaTiSiO_3 , SrTiO_3 , PbTiO_3 , silica, talc, kaolin, mica, calcium carbonate, barium sulphate, calcium phosphate, or mixtures thereof.

23(new). The method of claim 21 in which the metal oxide sol and inorganic particulate solid are formed from silica.

24(new). The method of claim 21 in which the microspheroidal particles are formed using up to 35 wt%, based on total solids, of added microspheroidal particle fines in the slurry.

25(new). The method of claim 21 in which the microspheroidal particles are formed using up to 25 wt%, based on total solids, of added microspheroidal particle fines in the slurry.

26(new). The method of claim 21 in which the microspheroidal particles are formed using at least 5 wt% and up to 30 wt%, based on total solids, of recycled microspheroidal particle fines in the slurry.

27(new). The method of claim 21 in which the microspheroidal particles are formed using at least 15 wt% and up to 25 wt%, based on total solids, of recycled microspheroidal particle fines in the slurry.

28(new). The method of claim 21 in which the average diameter of the added microspheroidal particle fines is 0.01 to 0.6 of the mean diameter of the resulting microspheroidal particles.

29(new). The method of claim 21 in which the metal oxide sol and inorganic particulate solid are formed from silica, and using at least 5 wt% and up to 25 wt%, based on total solids, of added microspheroidal particle fines in the slurry.

30(new). The method of claim 29 in which the average diameter of the added microspheroidal particle fines is 0.1 to 0.4 of the mean diameter of the resulting microspheroidal particles.

31(new). Attrition resistant microspheroidal particles formed by spray drying an aqueous slurry comprising a metal oxide sol and an inorganic particulate solid, in which a minor portion of microspheroidal particle fines is added to the aqueous slurry.

32(new). The microspheroidal particles of claim 31 in which the metal oxide sol and inorganic particulate solid are formed from silica.

33(new). The microspheroidal particles of claim 32 in which the metal oxide sol is a silica sol.

34(new). The microspheroidal particles of claim 32 in which the inorganic particulate solid are silica particles.

35(new). The microspheroidal particles of claim 32 which are formed using at least 5 wt% and up to 25 wt%, based on total solids, of added microspheroidal particle fines in the slurry and in which the average diameter of the added microspheroidal particle fines is 0.01 to 0.6 of the mean diameter of the resulting microspheroidal particles.

36(new). The microspheroidal particles of claim 31 having a pore volume of 0.2 to 0.7 cm³/g.

37(new). The microspheroidal particles of claim 31 having a microsphere surface area of 50 to 200 m²/g.

38(new). The microspheroidal particles of claim 32 having a pore volume of 0.4 to 0.55 cm³/g and a microsphere surface area of 60 to 125 m²/g.

39(new). The microspheroidal particles of claim 32 having a particle size of 10 to 200 μm.

40(new). The microspheroidal particles of claim 38 having a particle size of 20 to 150 μm.

41(new). A fluidized bed acetoxylation catalyst component comprising attrition resistant microspheroidal particles of claim 31 on which has been placed catalytic metals.

42(new). The catalyst component of claim 41 in which the catalytic metals comprise gold, palladium, and mixtures thereof.

43(new). A method of using the catalyst component of claim 41 in which ethylene, oxygen, and the catalyst component are contacted in a fluidized bed under acetoxylation conditions to produce vinyl acetate.